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WOODCHUCK

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Known by many names-- chuck, groundhog, whistle pig, marmot, monax and others--the woodchuck is a common Pennsylvania game animal. Woodchucks are members of the order *Rodentia* (rodents) and family *Sciuridae* (squirrels), and they're closely related to tree and ground squirrels, chipmunks, prairie dogs and marmots. Chucks dig burrows; these holes aerate the soil and provide excellent escape hatches for many other animals, but they are dangerous to livestock and farm machinery. So the woodchuck is often thought of as a "valuable nuisance"--a contradiction in terms that illustrates well this inhabitant of field and fencerow.

Biology

The woodchuck is a mammal about 20-26 inches long, including a bristly, six-inch tail. Weights of adult chucks vary from 5-10 pounds, with extremely large animals as heavy as 12-15 pounds. The weight of an individual fluctuates in a cyclic fashion throughout the year, with the animal at its heaviest by summer's end.

Woodchucks have yellowish-brown to blackish-brown fur. Belly fur is sparse and usually paler than the fur on the back. The pelt is coarse and has little or no commercial value. Light-colored hairs in the coat give some individuals a grizzled appearance. Albinism and melanism occur infrequently. A chuck's feet are dark brown or black, and its front incisor teeth are white. These two front teeth are broad and chisel-shaped like those of rabbits and squirrels and are used primarily to nip off vegetation. They identify the woodchuck as a rodent.

Woodchucks are found throughout Pennsylvania in open fields, meadows, pastures, fencerows and woodland edges and even deep in the woods. Adults rarely move more than a half mile within their home ranges, preferring to stick close to the safety of the burrow.

Chucks don't generally have to move far to find food, as they eat a wide variety of vegetation--including green grasses, weed shoots, clover, alfalfa, corn in the milk stage, dandelion greens, garden vegetables such as beans, peas and carrots and, in the fall, apples and pears. These feeding habits often get them in trouble with farmers and gardeners. In the summer, woodchucks feed most actively during early morning and late evening.

A woodchuck has keen senses of sight, hearing and smell. Note where the animal's sensory organs are located on its skull: eyes, ears and nose are all near the top of the head, enabling a groundhog to check its surroundings simply by sticking its crown out of the burrow. When feeding, a chuck usually raises its head every ten seconds or so to check for danger.

A muscular body, short powerful legs and sturdy claws make the chuck an excellent digger, and the critter spends much of its time underground. It piles excavated dirt at its burrow's main entrance and often sits on this mound to look about. The burrow descends at a sharp angle below the entry hole and then levels off into a narrower tunnel. Woodchucks often dig many side tunnels and two or three back entrances. These "drop holes" are inconspicuous--they aren't marked with dirt mounds--and chucks use them as lookouts or to get underground in a hurry when danger threatens. Burrows are usually located in well-drained, sloping areas and rarely get flooded. In digging, chucks use their strong forefeet to loosen the soil, then their hindfeet to kick the earth behind them.

Even though a groundhog has short legs, it can run at a fairly fast clip for a short distance. An adult is a fierce fighter; men, dogs and foxes are about the only enemies it has, although young chucks are preyed upon by owls and hawks. Woodchucks climb well, ascending and descending trees head first. They have good balance and frequently walk along wooden fence rails. They use their front paws much as people use their hands, to clutch stems of clover or hold apples while feeding.

Woodchucks can produce several sounds. They often let out a sharp whistle for an alarm call. When feeding, they may make a "chuck-chuck" sound, and when angry or cornered may chatter their teeth.

Woodchucks hibernate during winter. They eat heavily throughout summer and early fall to accumulate body fat and prepare to shelter in their burrows all winter. With the hard frosts of October, chucks begin denning up; few remain active past the first of November. A hibernating animal goes into a deep sleep, or a dormant state: its body temperature, heartbeat and other metabolic processes fall off drastically as the animal lives over winter on its body fat. (A chuck's body

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temperature drops from over 90 degrees Fahrenheit into the low 40's; heartbeat slows from over 100 beats a minute to only four.)

In the spring, males emerge from hibernation before females, and during February and March fight aggressively. Fat left over from hibernation sustains chucks during mating season (late February-March), when succulent green foods are scarce. After a 28-day gestation period, females bear young in April and early May. Litters average 3-4 young; newborn chucks are blind, naked and helpless and remain in the underground nest until about a month old. By mid-June or early July, they are ready to leave the home burrows and establish their own territories.

This move is a perilous one for young woodchucks, and many are killed by vehicles or fall prey to dogs and foxes. The young often take up residence in abandoned dens. As fall approaches, they have to feed more actively than the heavier adults in order to accumulate enough fat to last them through the coming winter.

The potential lifespan of a woodchuck is estimated at eight or nine years. In a study conducted at the Penrose Research Laboratory, Philadelphia Zoo, observers found that captive woodchucks died of many causes, including cancer of the liver, ruptured aortas, and heart attacks and cerebral strokes resulting from hardening of the arteries. It's doubtful whether many chucks in the wild live to be eight years old. Enemies shorten this period, and the older an adult woodchuck gets the more easily it falls prey to a dog or fox.

A few chucks are affected by malocclusion, which occurs when the front incisors fail to meet and therefore can't continually grind each other down. A rodent's teeth never stop growing, so this misalignment may result in an incisor growing in a complete circle, sometimes even penetrating the skull cavity and killing the animal.

Population

The woodchuck is one wildlife species native to Pennsylvania that has benefitted from civilization. When our state was wilderness--when the land was almost completely forested and there were no farms, pastures or orchards--there were far fewer woodchucks than there are today, simply because there was little suitable habitat. Probably the only places where chucks became abundant were on formerly-forested tracts that had been swept clear by fires and were growing up again in brush.

But as these naturally-cleared areas matured, woodchuck numbers would have dwindled; population size depends on habitat, and while woodchucks can exist in wooded territory, they don't build up sizable populations there. By cutting forests, raising crops and clearing pasture land, settlers provided suitable habitat and the woodchuck population expanded. Today the chuck is one of our most common mammals.

Woodchuck numbers vary from area to area, depending on food availability, soil type, hunting pressure and predation. Sometimes populations are extremely dense, with up to six or seven individuals per acre; this high density is seldom reached. A population of four per acre is considered abundant, and the average is probably closer to one per acre of farmland.

In some regions, woodchucks are under heavy hunting pressure but still produce high populations year after year. This illustrates how a game species can absorb heavy local losses if it has enough good habitat. Chucks can damage crops and gardens and become real pests in agricultural areas where they are overabundant.

As a species, the woodchuck has a large range, extending north and northeast from Oklahoma and Alabama, and west across Canada into Alaska. The yellowbelly marmot, closely related to the woodchuck, inhabits the high country of the Rocky Mountain states.

Habitat

Woodchucks live in many types of terrain, from farmland to old, overgrown cemeteries to orchards to suburban areas. Ideal habitat might be a thick, almost-impenetrable fencerow bordering cultivated cropland. Orchards, especially if the spaces between trees are not mowed frequently, provide good habitat; woodchucks dig burrows under dead stumps or at the bases of the trees themselves, where the roots protect den entrances. In stony areas, dens are often dug under large rocks.

A chuck may dig its burrow in the center of a field or pasture, but usually the animal chooses a more-protected location such as a field edge, fence, hedgerow or under a stone wall. Apparently, chucks do not require ground water sources, as many live far from streams, lakes, creeks, and other bodies of water. Like rabbits, they get moisture from succulent plants, dew and water left standing after rainfalls.

As well as requiring habitat, woodchucks provide it with the tunnels they dig. Skunks, raccoons and foxes remodel vacant burrows and use them to bear and raise young. (Foxes may claim a burrow after killing its woodchuck owner.) Rabbits often seek shelter in the dens especially during winter while the chucks are hibernating below. Animals pursued by predators or hunters also use the burrows as escape hatches.

This Wildlife Note is available from The Division of Information and Education, Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.